UNITED STATES MARINE CORPS
MARINE CORPS SYSTEMS COMMAND
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QUANTICO, VIRGINIA 22134-5010

MARCORSYSCOMO 5230.4
C4ISR
27 Apr 01

MARINE CORPS SYSTEMS COMMAND ORDER 5230.4

From: Commander
To: Distribution List

Subj: USE OF COMMAND AND CONTROL PERSONAL COMPUTER (C2PC) SOFTWARE

Ref: (a) CJCSI 3151.01
(b) Office of the Secretary of Defense (OSD) Memorandum of 22 Aug 96
(c) Joint Technical Architecture, v.4.0
(d) Defense Information Infrastructure (DII) Master Plan, v.7.0
(e) DII Common Operating Environment (COE) I&RTS, v.4.0
(f) Marine Air-Ground Task Force (MAGTF) Command, Control, Communications, Computers, Intelligence, Surveillance, and Reconnaissance (C4ISR) Configuration Management Plan (CMP)

Encl: (1) Sample Request for Command and Control Personal Computer (C2PC) Exclusion Waiver

1. Purpose. To establish MARCORSYSCOM policy with respect to the use of the C2PC software in Microsoft Windows-based tactical systems developed for the sending or receiving of situation awareness or command and control information. The intent of this policy is to ensure a single software baseline, using C2PC as the primary component for the Marine Corps. Nothing in this policy should be construed to prohibit system migration to the Windows NT DII COE at any time.

2. Background. Since 1995, MARCORSYSCOM has supported the development of the Microsoft Windows-based C2PC software as the primary software baseline for those systems feeding or receiving the Common Tactical Picture (CTP) and Common Operational Picture (COP) network in a Windows environment, as described in reference (a).

a. DII COE. As outlined in references (b), (c), (d), and (e), the DII COE concept is best described as an architecture

that is fully compliant with the Department of Defense Technical Architecture for Information Management (TAFIM), Volume 3. The TAFIM is an approach for building interoperable systems, a reference implementation containing a collection of reusable software components, a software infrastructure for supporting mission-area applications, and a set of guidelines, standards and specifications. In the absence of a Joint Systems Architecture (JSA), the Joint Technical Architecture (JTA) currently mandates use of the DII COE (a fundamental JSA component). The DII COE will be evolved as necessary to maintain compliance with mandated standards found in future JTA updates.

b. In recognition of the Marine Corps' reliance on combat net radios for data communications, much work has been done to engineer C2PC to operate efficiently in a combat net radio environment.

c. The C2PC is currently in use worldwide by the military commanders-in-chief (specified and unified commanders) and services. The C2PC is also included with every Global Command and Control System (GCCS) delivery as a mission application and is currently in use in GCCS command centers throughout the world.

d. Included in the C2PC Structure

(1) A mapping engine that supports all major raster and vector map products produced by the National Imagery and Mapping Agency. The mapping engine has a complete software developer's kit (SDK) and the ability for third party developers to create map "injectors" that inject objects (such as overlays, icons, etc.) onto the map display.

(2) Interoperability with the DII COE tactical database, the UNIX-based Track Database Manager, supports the GCCS and its service derivatives (GCCS-Maritime, GCCS-Army, and Tactical Battle Management Control Systems) and provides the foundation for the Joint COP.

(3) Tools to create and display referenced overlays and routes.

(4) A Global Positioning System (GPS) navigation tool that can receive and display GPS information from any National Marine Electronics Association-0183 or Interface Control Development-153-based GPS receiver.

(5) A tool to create, edit, display, and transmit variable message format messages.

(6) A tactical communications subsystem that supports the transmission and reception of C2PC tracks, overlays, and routes messages and other information.

(7) MIL-STD-2525A military symbology support.

3. Action

a. All Program Managers (PM's) within MARCORSYSCOM

(1) Employ C2PC as the foundational software for all systems developed that use the Microsoft Windows operating systems, participate in the CTP and COP networks, and have functions that can use C2PC components, particularly mapping, messaging, and tactical communications. In all instances where Windows NT DII COE software is not used, exceptions to this policy require the Director, Systems Engineering and Integration (SE&I) Division's written approval. The following developmental guidance is provided:

(a) Many of the C2PC Components are Active X Components. The SDK, Application Programming Interfaces (API), and Active X Components should be used to the maximum extent possible, with first priority being given to those components that are held in common with the Windows NT DII COE. Prior to evaluating the SDK, API's, and Active X Components, PM's and project officers (PO) should ensure that they are using the most current version of C2PC/Windows NT DII COE and the SDK.

(b) In the event that the current SDK, API's, or Active X Components do not satisfy the development needs of the program, requirements for new API's, Active X Components, or SDK improvements should be presented to the C4ISR Software Working Group (SWG) prior to determining that C2PC cannot meet system requirements. The SWG will consult with appropriate Defense

Information Systems Agency (DISA) codes and working groups prior to approving or forwarding such requests, when necessary.

(c) Source codes that are not planned to be released to individual development efforts as a single source code baseline must be maintained to ease migration to the Windows NT DII COE based COP client. Rather, new API's and Active X Controls may be developed as outlined above.

(2) Provide system functional description documents and software design documentation to SE&I for approval prior to commencement of actual software coding, whenever possible.

b. Management. There are three levels of management to support implementation of C2PC for PM's: the SWG, Interoperability Working Group (IWG), and the Marine Configuration Control Board (MCCB). The C2PC development and configuration management begins at the SWG.

(1) SWG

(a) The SWG is chaired by the PM, Information Systems and is chartered to compile, review, and recommend actions regarding new requirements and software changes. It is at this working group that C2PC development requirements are raised, analyzed, discussed, and voted upon. C2PC specific functions of the SWG include technical requirement prioritization and establishment of the C2PC functional baseline.

(b) As C2PC interoperates with service and joint systems, major changes to the C2PC baseline that may affect operation with other systems, once approved by the SWG, are forwarded to the IWG. If not forwarded to the IWG, voted and approved changes to C2PC can be implemented.

(2) The IWG develops and evaluates proposed changes affecting system interfaces, as well as operational and doctrinal interoperability requirements and capabilities. In the case of C2PC, such evaluation will also include contact with appropriate DISA codes and working groups. Once the IWG has voted and approved C2PC changes, those changes may be implemented, unless there is significant reason to elevate C2PC related issues to the MCCB. Issues may be elevated to the MCCB at the request of voting members. All changes approved by the

IWG will be forwarded to DISA for consideration to be included in the Windows NT DII COE.

(3) The Commander, MARCORSYSCOM has established the MCCB to provide configuration management over Marine Corps C4ISR systems, and has designated the Deputy Commander, C4ISR, as the MCCB Chairman. The MCCB shall be the formal system-level configuration control decision-making body for all MAGTF C4ISR configuration management issues. The MCCB is an event driven meeting when sufficient issues exist to convene the MCCB. As C2PC is part of MAGTF C4ISR, the MCCB retains ultimate authority over the configuration of C2PC. Basic changes can be implemented at the direction of the SWG or the IWG.

c. Per reference (f), the Director, SE&I will:

(1) Review the design of software applications developed within the directorate to ensure that common C2PC software is used whenever possible.

(2) Coordinate with the directorate's, PM's, and PO's to coordinate C2PC delivery schedules.

(3) Work with the SWG to ensure needed API'S, Active X Controls, and functionality enhancements to C2PC to support the development efforts of Windows-based systems within MARCORSYSCOM.

(4) Ensure that all proposed changes to C2PC are presented to the appropriate DISA code or working group, and all DISA objections/recommendations are considered in the decision process.

(5) Marine Corps representative to the DII COE management structure, including the DII COE Architecture Oversight Group, appropriate technical working groups, and the Configuration Review and Control Board to provide Marine Corps technical requirements, positions, and issues.

(6) Evaluate joint software development and provide recommendations to PM's and PO's on future migration to the Windows NT DII COE.

d. PM, Information Systems will exercise programmatic management authority over C2PC.

e. PM's at MARCORSYSCOM will provide technical requirements to the SWG and incorporate C2PC/Windows NT DII COE into their program software CTP/COP baselines.

4. Waiver Process. PM's who have systems that send, receive, or display the CTP/COP that do not wish to integrate their system with C2PC or the Windows NT DII COE can submit a request for exclusion waiver in the format contained in the enclosure. The waiver request shall include a timeline for the program's eventual migration to C2PC/Windows NT DII COE and shall be submitted to the Director, SE&I for review and recommendation. If disapproved, the PM must integrate their particular system with C2PC/Windows NT DII COE or request a review of the waiver at the MCCB. If approved, the waiver is only applicable for a specific software baseline and version(s) consistent with the submitted timeline. If the software baseline or version of a system changes, then the system is again directed to integrate with C2PC/Windows NT DII COE or resubmit a request for exclusion waiver. Waivers that generally would receive favorable consideration fall into the following categories:

a. The system is a multi-service or joint system that is not under Marine Corps programmatic control for schedule, performance, or software configuration control.

b. The system is a legacy system that will not be undergoing future development.

c. Other technical and performance reasons, provided in sufficient detail, that show integration with C2PC/Windows NT DII COE would cause significant degradation of system schedule, performance, or budget to the point that successful execution of the program would be at risk.

5. Applicability. This Order is applicable to MCTSSA.

L. P. KREITZER
Acting

DISTRIBUTION: A

SAMPLE REQUEST FOR COMMAND AND CONTROL PERSONAL COMPUTER (C2PC) EXCLUSION WAIVER

5000
Code
Date

From: Program Manager, XXXXX
To: Director, Systems Engineering and Integration Division

Subj: REQUEST FOR C2PC EXCLUSION WAIVER FOR THE XXXXX SYSTEM

Ref: (a) MARCORSYSCOMO 5230.4

Encl: (1) C2PC Integration Analysis

1. Per the reference, request that XXXX system not be required to integrate C2PC into the system for version 5.3 of the XXXX system software baseline. Version 5.4, scheduled for release in XX Qtr of FY XX, will be integrated with C2PC.

2. The XXXX system is planned to go to Milestone B decision in FY XX. The enclosure contains an analysis of the cost, schedule, and performance impact of integrating with C2PC. We have determined that the integration of C2PC would result in an unfavorable MS B decision for the following reasons:

a. The integration of C2PC with XXXX system would cause a schedule slip of six months. This would cause a loss of funding that would currently make the XXXXX program unexecutable.

b. The integration of C2PC would cause XXXX system to fail the Critical Operational Requirements (COR) or Key Performance Parameters (KPP) during an operational test.

(1) COR

(2) KPP

SIGNATURE

ENCLOSURE (1)